IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	: 10/750,473
Applicant	: Rodney R. Wilkins
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Tech. Center/Art Unit	: 1723
Examiner	: Cecil, Terry K.
Attorney File No.	: NFIBX 118
Customer No.	: 002555
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For	: Three Component Filtration System

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/Jason H. Foster/

REPLY UNDER 37 C.F.R. §1.111

Applicant requests that prosecution be reopened.

Remarks

1. First Ground of Rejection: 35 U.S.C. §102(b) and Wnenchak

(a) Correcting Arithmetic Errors

Claims 2-25 recite a filter material made from polypropylene fibers and either acrylic or modacrylic fibers. The material contains less than about 0.1 weight percent of at least one extractable agent. The examiner rejected claims 2, 22 and 24-25 as anticipated by Wnenchak.

The claims do not read on Wnenchak, because Wnenchak does not teach extractables of less than about 0.1 weight percent extractables. As described many times in this prosecution, in order to derive the percentage of contaminants by weight present in each sample of the Technostat filter material disclosed in Wnenchak, one must divide the contaminant level of each sample by the density of each sample (110 g/m^2) after converting the contaminant levels from mg/m^2 to g/m^2. The quotient is then multiplied by 100 to obtain a percent value. The density of the Wnenchak filter material samples, as tested, is given in column 4, line 7, as **169.49 g/m^2**. The density of the Technostat filter material samples, as tested, is given in column 3, line 55, as **110 g/m^2**. Nothing in Wnenchak contradicts this or leads a person having ordinary skill to think otherwise. Performing this calculation for each of the Technostat samples yields a range of approximately 0.20% to 0.33% contaminants by weight for the tested samples.

The examiner concedes that, although "the samples were 110 g/m^2 … the results in the table *were given in terms of 169.49 g/m^2 of material* (see col. 4, lines 8-9)".[1] The examiner's summary of the cited section in Wnenchak ("given in terms of 169.49 g/m^2") is incorrect. The section actually says "given in terms of mg/m^2", which has a different

[1] Examiner's Answer, page 5, emphasis in original

meaning. With his statement, Wnenchak points out that the results are given in different **units** (mg/m^2).

The examiner argues that the contaminant levels in the Technostat material should be divided by a density of 169.49 g/m^2, because the results for the Technostat material given in the Wnenchak data table "were converted (by calculations not shown in the reference)". Therefore, the examiner continues, the amount of contaminant in the Technostat material is properly derived by dividing the amount of contaminant in the table by 169.49 g/m^2. This explanation is not supported by any evidence. To the contrary, Wnenchak's statement in col. 4, lines 8-9 that "the results are given in terms of mg/m^2," refers to the **units** used in the subsequent table. The examiner has misunderstood the language in col. 4, lines 8-9 of Wnenchak and concluded that a "conversion" was performed to equalize the density of the Wnenchak material and the Technostat material for the sake of comparison. The examiner provides no explanation for this conversion.

The discussion in column 3, line 49 through column 4, line 19 of Wnenchak is poorly drafted, and changes topics without warning. However, a careful reading reveals the accuracy of Applicant's description of the teaching of Wnenchak. The table in column 4, lines 11-19 shows the contaminant content of three samples of the prior art Technostat filter material (the first three lines) and three samples of the Wnenchak filter material, which is a combination of ePTFE fiber and nylon 66 (the last three lines). Contaminant levels for both materials are stated in the table in units of milligrams of contaminant per square meter of filter material.[2]

[2] For example, the contaminant levels in the Technostat filter material samples is 362.86 mg/m^2, 348.59[2], and 223.05 mg/m^2. The contaminant levels in the Wnenchak filter material samples is 19.99 mg/m^2, 16.89 mg/m^2, and 10.39 mg/m^2.

The samples of the Wnenchak filter material are 10.937 **grams**. Thus, each Wnenchak sample has a density of 169.49 g/m^2 (derived by dividing the mass of the material (10.937 g) by the surface area (645.1 cm^2, or 0.06451 m^2)). Lines 8-9 of column 4, which should not be read outside of context, simply state that the amounts of contaminant on the Wnenchak samples listed in the data table at col. 4, lines 11-19 are given in **milligrams** per square meter of the filter material, rather than **grams** per square meter. This statement points out to a careful reader of the entire section that although all of the mass values were previously stated in **grams**, the table states them in **milligrams**. Without the cited warning, a careful reader might be surprised by different units in the table.

There is no support in col. 4, lines 8-9, or anywhere else in the Wnenchak reference, for the examiner's assertion that the weight of contaminant per square meter of the Technostat filter material had been converted to something so that the table amounts should all be divided by a density of 169.49 g/m^2. Indeed, when the quoted portion is correctly stated, it is clear that the statement relates only to the units of the table.

The proper density of the Technostat material, stated in col. 3, line 55 of Wnenchak, is 110 g/m^2. Dividing the listed contaminant levels by this density yields the above-stated range of approximately 0.20% to 0.33% contaminants by weight for the tested samples. This range is significantly greater than the "less than about 0.1 weight percent" range claimed by Applicant. Therefore, Wnenchak does not anticipate the claimed invention.

(b) Examiner Rounding

The examiner stated that the Wnenchak patent discloses a filter material that is made of polypropylene and modacrylic fibers containing "approximately 0.1%" extractable contaminants.[3] The examiner's incorrect[4] arithmetic shows that Wnenchak teaches contaminants of 0.13 weight percent. The examiner then rounds 0.13 percent "to the nearest tenth of a percent"[5]. The claims require "less than about 0.1" percent, but this does not read on 0.13. Therefore, the examiner rounds down to 0.1 percent, which takes the reference closer to the claimed range, but provides no explanation for why this is done prior to reading the claims on the reference.

2. Rejection under 35 U.S.C. §102(b) over Brown (US 4,798,850)

(a) Claims 1-25

The examiner's new grounds for rejection based on obviousness in light of Brown can be separated into two issues. First, the examiner stated that while Brown desires his fibers to be clean, the fibers may still contain a measurable amount of some other "residual contaminants" in a quantity that is allegedly not specified.[6] The examiner says that "the process of Brown still results in a product filter media having measurable amounts of extractables."[7]

These assertions are incorrect. The concept of "residual contaminants" is not found in Brown. There may be residual contaminants in Brown, but one cannot conclude so without evidence. Additionally, Brown does "specify the value of residual

[3] Examiner's Answer, page 3
[4] See discussion above
[5] Examiner's Answer, page 5
[6] Examiner's Answer, page 4
[7] Examiner's Answer, page 5

contaminants" to the extent that such contaminants are referenced at all – he says there are none. The fiber blend is described as "clean," and "[b]y 'clean' we mean that the fiber has no coating of lubricant or anti-static agent, or that any such coating was removed before blending...."[8] The word "clean" is given a specific meaning in Brown, and it contradicts the examiner's explanation. Brown specifies "the value of residual contaminants" by stating that there are none. By doing so, Brown teaches away from a blend containing extractable agents.

Second, the examiner cites language in Brown stating that "if the fibers are moderately clean then the filter will be moderately good." Based on this language, the examiner reasons that "...how well the filter performs is directly related to the amount of residual contaminants after scouring (that cleaner fibers result in a filter that performs better)..." and that "for better filter performance, it would have been obvious to one ordinarily skilled in the art at the time the invention was made to minimize the amount of residual contaminants- to be e.g. less than 0.1 weight percent- by allocating more time, energy, and expense to the cleaning of the fibers and the fiber processing machines."[9] Applicant does not disagree with the fact that Brown teaches that better performance is to be expected with fibers having less contaminants. Brown would thus lead a person of ordinary skill to conclude that a fiber blend containing no contaminants would yield better performance than a blend with a small amount of contaminants.

Applicant, however, determined that a fiber blend containing more than none and less than about 0.1 weight percent of contaminant is superior to Brown's blend containing no contaminants. Applicant shows, in direct contradiction to Brown's teaching, that the

[8] Column 1, lines 40-43
[9] Examiner's Answer, page 4

presence of such an amount of contaminants yields significantly better filtration than Brown's blend containing no contaminants.[10] Therefore, Applicant's filter with more contaminants that Brown has unexpected benefits. Only when one goes against Brown's teaching that decreasing contaminants increases performance does one instead find that increasing contaminants within the claimed range increases performance even beyond Brown's invention. This unexpected benefit proves that applicant's invention would not have been obvious, because to arrive at the claimed range, one would have to go against Brown's teaching.

Therefore, Applicant's claims are allowable, because they are not anticipated by the prior art, nor are they obvious therefrom.

The examiner is authorized to communicate with the undersigned attorney by email by the following recommended authorization language: Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file. (authorization pursuant to MPEP 502.03)

[10] See Applicant's Fig. 1 and specification at page 8, paragraph [0018]

The Commissioner is authorized to charge Deposit Account No. 13-3393 for any insufficient fees under 37 CFR §§ 1.16 or 1.17, or credit any overpayment of fees.

Respectfully submitted,

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Date of Signature

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